

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the present application:

1. (Original) A process for producing a hyaluronan (HA) ester, the process comprising the steps of:
 - (a) performing a silylation reaction on an HA-quaternary ammonium complex; and
 - (b) performing an acylation reaction on the silyl HA-quaternary ammonium complex using an acid chloride.
2. (Original) The process of claim 1 wherein:
 - (a) the step of performing a silylation reaction comprises silylating an HA-cetyltrimethyl ammonium salt complex, HA-CTA, producing a silyl HA-cetyltrimethyl ammonium salt complex; and
 - (b) the step of performing an acylation reaction comprises introducing the acid chloride having been selected from aliphatic acyl groups consisting of: Hexanoyl, $\text{CH}_3(\text{CH}_2)_4\text{COCl}$; Octanoyl, $\text{CH}_3(\text{CH}_2)_6\text{COCl}$; Decanoyl, $\text{CH}_3(\text{CH}_2)_8\text{COCl}$; Lauroyl, $\text{CH}_3(\text{CH}_2)_{10}\text{COCl}$; Palmitoyl, $\text{CH}_3(\text{CH}_2)_{14}\text{COCl}$; and Stearoyl, $\text{CH}_3(\text{CH}_2)_{16}\text{COCl}$.
3. (Original) The process of claim 2 further comprising the step of shaping the hyaluronan (HA) ester by applying thermal energy to melt-process the ester into a structure-shape.
4. (Original) The process of claim 2 further comprising the steps of:
 - (a) shaping the hyaluronan (HA) ester into a structure-shape; and
 - (b) performing a saponification substantially removing acyl groups, $-\text{CH}_3(\text{CH}_2)_N\text{CO}$, and the cetyltrimethyl ammonium salt groups, -CTA, from the hyaluronan (HA) ester to produce a regenerated HA.

5. (Canceled)

6. (Original) The process of claim 1:

(a) wherein the step of performing a silylation reaction comprises silyating an HA-cetyltrimethyl ammonium salt complex, HA-CTA, producing a silyl HA-cetyltrimethyl ammonium salt complex; and

(b) further comprising the step of performing a saponification substantially removing acyl groups and the cetyltrimethyl ammonium salt groups, from the hyaluronan (HA) ester to produce a regenerated HA.

7. (Original) The process of claim 1:

(a) wherein the step of performing an acylation reaction comprises introducing the acid chloride having been selected from aliphatic acyl groups consisting of: Hexanoyl, $\text{CH}_3(\text{CH}_2)_4\text{COCl}$; Octanoyl, $\text{CH}_3(\text{CH}_2)_6\text{COCl}$; Decanoyl, $\text{CH}_3(\text{CH}_2)_8\text{COCl}$; Lauroyl, $\text{CH}_3(\text{CH}_2)_{10}\text{COCl}$; Palmitoyl, $\text{CH}_3(\text{CH}_2)_{14}\text{COCl}$; and Stearoyl, $\text{CH}_3(\text{CH}_2)_{16}\text{COCl}$; and

(b) further comprising the step of shaping the hyaluronan (HA) ester into a structure-shape while crosslinking the hyaluronan (HA) ester.

8. (Original) A process for producing a hyaluronan (HA) ester, the process comprising the steps of:

(a) performing a silylation reaction on an HA-cetyltrimethyl ammonium salt complex, HA-CTA; and

(b) performing an acylation reaction on the silyl HA-cetyltrimethyl ammonium salt complex using an acid chloride selected from the group consisting of: Hexanoyl, $\text{CH}_3(\text{CH}_2)_4\text{COCl}$; Octanoyl, $\text{CH}_3(\text{CH}_2)_6\text{COCl}$; Decanoyl, $\text{CH}_3(\text{CH}_2)_8\text{COCl}$; Lauroyl, $\text{CH}_3(\text{CH}_2)_{10}\text{COCl}$; Palmitoyl, $\text{CH}_3(\text{CH}_2)_{14}\text{COCl}$; and Stearoyl, $\text{CH}_3(\text{CH}_2)_{16}\text{COCl}$.

9. (Original) The process of claim 8 further comprising the step of:

(a) shaping the hyaluronan (HA) ester into a structure-shape selected from the group consisting of: a plurality of polymer fibers; a generally solid bulk structure; and porous bulk structure; and

(b) performing a saponification substantially removing acyl groups and the cetyltrimethyl ammonium salt groups, from the hyaluronan (HA) ester to produce a regenerated HA.

Claims 10-15 (Canceled)